

Claims

What is claimed is:

102 5,054, 964 1102 DE see Fig 5a

1. A lattice girder supporting frame for tunnel lining comprising:

upper and lower boom members arranged in parallel relative to each other and forming a triangle;

truss braces spatially connecting said upper and lower boom members to each other, wherein each of said truss braces has straight brace parts spaced in a V-shape relative to each other, and each of said straight brace parts are connected to each other at one end via a straight bridge piece, wherein said truss braces are arranged in a symmetrical plane extending laterally from said upper boom member to an axis of said lower boom members;

cross ties extending at right angles relative to said lower boom members, for connecting said lower boom members to each other,

wherein said truss braces abut said lower boom members without bending and are welded to said lower boom members.

102 DE (S1-S6)

2. A lattice girder supporting frame according to claim 1,

wherein said truss braces abut said lower boom members at an acute angle, and

said cross-ties are provided inside the acute angle so as to be welded to said lower boom members and said straight brace parts of said truss brace.

102 DE

3. A lattice girder supporting frame according to claim 1,

wherein ends of said cross tie are disposed between said truss braces and said lower boom members, so as to be welded between said truss braces and said lower boom members.

Sub A2  
102 DE  
NAB  
4. A lattice girder supporting frame according to claim 1, wherein each of said two straight brace parts are connected to each other at one end through a buckled part, with said straight bridge piece located in between said buckled parts, and extending in parallel to said upper and lower boom members.

B4  
102 DE see Fig 5b  
NAB in spec.  
5. A lattice girder supporting frame according to claim 1, wherein said upper boom member is arranged between said straight bridge pieces of said truss braces and welded thereto.

Sub A3  
103 design  
6. A lattice girder supporting frame according to claim 1, wherein said upper boom member is capable of being positioned at different heights relative to said straight bridge piece of said truss, for example  $X$  or  $X \pm a$ , wherein  $a$  is  $\leq$  a radius of the upper boom member.

B4  
10102 DE  
20.11  
7. A bracing element for a lattice girder supporting frame having upper and lower boom members, comprising:

(15-17)  
(13)  
(12)  
two brace parts angled relative to each other, wherein one end of each of said brace parts has a curved part and the other end of each of said brace parts is straight, the other end of each of said brace parts adapted to be connected to the lower boom members without bending;

14  
a straight brace part connecting said brace parts to each other at said curved parts so as to form a truss brace, wherein said straight brace part extends parallel to the upper and lower boom members;

23  
wherein two truss braces are connected to each other via cross-ties so as to form the bracing element, wherein said cross-ties are fixedly secured by a weld to said truss braces, and wherein said cross-ties are adaptable to contact the lower boom members.

SUB  
A4

102 4386, 489  
Steakhan -9-

8. A truss brace of a bracing element for a lattice supporting frame, comprising:

two straight brace parts, each of said two straight brace parts including a first end having a curved portion and a second end having a straight portion; and

a straight bridge piece connecting said first ends of said two straight brace parts so that said two straight brace parts are disposed at an angle with respect to each other.

Q63688